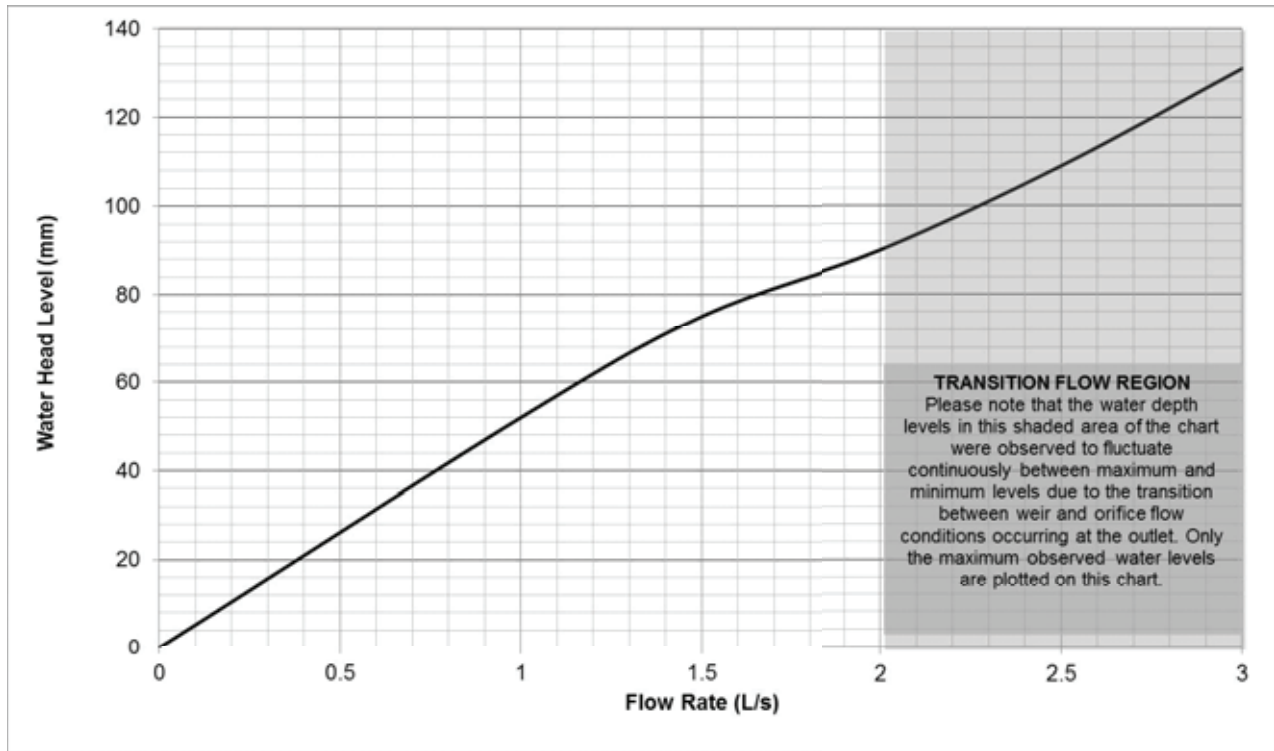


**Flow Characteristic Curve – Q130S4/C90**



Weir flow - 1 L/s (50mm)



Surcharged Flow - 2.5 L/s (110mm)

**Observation Comments:**

- A concentric swirl pattern was observed which indicated weir flow conditions, with the water head level stabilising at each flow rate setpoint from 0-2.0 L/s.
- At 2.5 L/s a transition from swirl motion to vortex flow was observed, as the air core decreased to approximately 10mm Diameter and moved to the side of the grate. At 3.0 L/s the vortex surcharged and transitioned to orifice conditions were characterised by the water level surging between 30-90mm.
- The maximum flow limit to maintain weir flow conditions is 2.0 L/s.

I hereby certify that the test results presented on this outlet performance certificate are true and correct and were obtained using recognised AHSCA Gutter Outlet Testing procedures.

Dr Terry Lucke,  
Chief Researcher:



Mark Alexander,  
AHSCA Foundation Chairman:



Date: 16<sup>th</sup> November 2016

Date: 16<sup>th</sup> November 2016